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# 911 EMERGENCY TELEPHONE SYSTEMS

## PROGRESS IMPLEMENTATION REPORT

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STATE OF ILLINOIS  
Illinois Commerce Commission  
527 EAST CAPITOL AVENUE  
SPRINGFIELD, ILLINOIS 62706

February 16, 1979

To: Honorable Members of the General Assembly

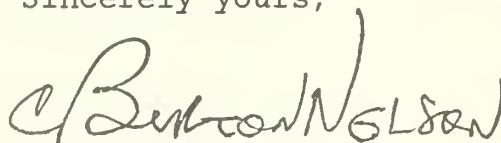
Attached is the Illinois Commerce Commission's report to the General Assembly on the progress toward implementation of 911 emergency telephone systems as required by "An Act in relation to the designation of an emergency telephone number for use throughout the state".

Since 1975, when the 911 Act was approved, the Illinois Commerce Commission with assistance from numerous private and public associations and agencies has conducted a major statewide study on 911 planning and implementation, has held meetings and public hearings on 911 operational and technical standards, and has assisted numerous local public agencies in their planning.

Currently there are 40 operating 911 systems in Illinois serving about 39% of the State's population. The 911 systems range in size from Chicago's sophisticated system serving about 3.4 million people to Minonk's system serving about 2,000 people. Another 68 local public agencies, serving about 58% of the State's population, are in various stages of the planning process.

The Commerce Commission has no recommendations at this time for additional legislation.

Sincerely yours,

  
C. Burton Nelson  
Chairman



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911 EMERGENCY TELEPHONE SYSTEMS

PROGRESS IMPLEMENTATION REPORT

TO THE 81ST GENERAL ASSEMBLY

Submitted by:  
The Illinois Commerce Commission  
February 16, 1979



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## 911 PROGRESS IMPLEMENTATION

### I. INTRODUCTION

#### 1. Basis For Report

The basis for this report is contained in "An Act in relation to the designation of an emergency telephone number for use throughout the state" (Illinois Revised Statutes, Chapter 134, Section 31 et. seq.). Section 13 of the Act, first paragraph, states that "On or before February 16, 1979, and again on or before February 16, 1981, the Commission shall report to the General Assembly the progress in the implementation of systems required by this Act. Such reports shall contain his [sic] recommendations for additional legislation".

#### 2. Purpose Of The 911 Act And The Commission's Duties

As stated in Section 1 of the Act, "it is the purpose of this Act to establish the number '911' as the primary emergency telephone number for use in this State and to encourage units of local government and combinations of such units to develop and improve emergency communication procedures and facilities in such a manner as to be able to quickly respond to any person calling the telephone number '911' seeking police, fire, medical, rescue, and other emergency services".

To help accomplish these purposes, the Act designates the Commission, with the advice and assistance of the Attorney General, to coordinate the planning and implementation, to provide technical and operational standards, to assist the agencies in obtaining financial help in order to establish emergency telephone service.

In addition, the Commission, with the advice and assistance of the Attorney General, shall submit recommendations to the Bureau of the Budget and to the Governor specifying amounts necessary to further implement the organization of telephone systems specified in the Act. This report, due in December, 1979 and again in December, 1980, shall contain an estimate of the fiscal impact on local public agencies to implement the Act.

#### 3. 911 Timetable

The original timetable as stated in the 911 Act is still in effect. Two important dates in 911 implementation are January 31, 1980 and January 31, 1982. On these dates public agencies must submit tentative and final plans, respectively, for their local 911 systems. Each final 911 system plan must be approved by the Commission prior to the start of the system. The complete statutory timetable is presented below.

## 911 ACT TIMETABLE

<u>DATE</u>	<u>EVENT</u>
9/25/75	House Bill 911 signed into law and took effect.
2/16/79	ICC Progress Report to General Assembly.
3/1/79 and Every Even-Numbered Year	Telephone Company Reports to ICC and General Assembly.
12/31/79	Technical and Operational Standards Established by ICC.
12/31/79	ICC and Attorney General Recommendations to the Governor and the Bureau of the Budget.
1/31/80	Tentative Plans Submitted by Public Agencies.
12/31/80	ICC and Attorney General Recommendations to the Governor and the Bureau of the Budget.
2/16/81	ICC Progress Report to General Assembly.
1/31/82	Final Plans Submitted by Public Agencies.
12/31/85	System Implementation and Coin Phone Conversion Completed.
1/31/87 and Each Succeeding Year	Annual Public Agency and Public Safety Agency Agreements Filed.

## II. PROGRESS TOWARD IMPLEMENTATION

### 1. Statewide Study

On April 29, 1975 the Commission requested the participation of groups interested in the planning and impact of 911 in Illinois. Invitations for participation were sent to the following:

- . Illinois Municipal League
- . Illinois Association of Chiefs of Police
- . Illinois Sheriffs Association
- . Illinois Association of Fire Protection Districts
- . County Board Commissioners Association
- . Associated Public-Safety Communications Officers, Inc.
- . Chicago Police Department
- . Chicago Fire Department
- . Illinois Department of Transportation
- . Illinois Department of Public Health
- . Illinois Department of General Services, Division of Telecommunications
- . Illinois Department of Law Enforcement - Illinois State Police
- . Illinois Department of Local Government Affairs
- . Illinois Law Enforcement Commission

On May 15, 1975 the Commission and representatives of most all of the above 14 agencies and organizations met in Springfield to begin developing a statewide overview and plan toward implementation of 911 service for the State. Because of the scope of the subject matter and because of limited time and resources available at that point in time, the above parties thought that a statewide overview and plan could be best accomplished by an outside consultant. The group formulated a Request for Proposal (RFP) and then attempted to determine qualified contractors capable of meeting the requirements set forth in the RFP.

During the week of May 26, 1975 the Commission mailed the RFP to 21 organizations, and on June 24, 1975 a 911 committee met to review the proposal submitted by:

- . Benton, Schneider and Associates, Inc.
- . Booz, Allen and Hamilton, Inc.
- . University of Illinois - Center for Advanced Computation
- . Stanford Research Institute
- . Michaud, Cooley, Halberg, Erickson and Associates, Inc.

After thorough and detailed review of the five proposals, the Illinois Commerce Commission determined that the proposal submitted by the Stanford Research Institute (SRI) be accepted. In July, 1975 the Commission awarded a contract to SRI in the amount of \$99,986. The Illinois Law Enforcement Commission provided a \$100,000 grant to this Commission for the statewide study, of which the federal government provided 90% and the Illinois Law Enforcement Commission provided 10% of the \$100,000.

A 911 Policy Committee assisted SRI in its project. SRI then formulated concepts and alternatives peculiar to the state of Illinois. Included among its considerations were alternatives for a local system design, potential funding sources and fiscal impact information for those systems, and potential technical and operational standards. SRI completed the study in June, 1976 embodied in the three publications listed below:

- . STATEWIDE CONSIDERATIONS IN ILLINOIS 911 SYSTEM DEVELOPMENT
- . ILLINOIS LOCAL GOVERNMENT 911 PLANNING MANUAL
- . ILLINOIS 911 TELEPHONE PLANNING MANUAL

Subsequently, the Commission distributed the three manuals to all cities and villages, county sheriffs, county board chairmen, telephone companies, and other interested parties.

## 2. Operational And Technical Standards

Section 10 of the Act requires the Illinois Commerce Commission to establish operational and technical standards for the provision of 911 service in consultation with certain agencies. In August, 1976 the Commission adopted a Resolution establishing a 911 Advisory Panel to look at operational and technical standards. The 911 Advisory Panel consisted of the agencies and associations listed as participants in the Statewide study as well as a number of other organizations, such as the State Fire Marshal, the Illinois Telephone Association, the Illinois Fire Chiefs Association, and the Illinois Emergency Services and Disaster Agency.

After five meetings of the 911 Advisory Panel, the Commission Staff proposed operational and technical standards for 911 service. The Commission, in June, 1977, adopted a Resolution to consider these proposed standards, and set the matter for public hearing with notice to all municipalities, affected State agencies, county officials and telephone utilities. The Commission held five public hearings on the staff proposal, considered briefs, and heard oral arguments on March 30, 1978. The Commission in the coming months will adopt a Resolution, proposing operational and technical standards to be considered in accordance with the Administrative Procedures Act.



### 3. Telephone Company Tariffs

An important aspect in planning for a 911 system is the cost to the public agency for telephone equipment, lines, and other items. Current 911 rates and charges are not specifically tailored to 911 services. Nevertheless, many public agencies have proceeded with their planning and implementation despite uncertain costs in the near future. In order to remove the uncertainty of the 911 telephone costs, revised tariffs are being established to deal specifically with 911 systems. The Commission expects these tariffs to become effective during 1979. Illinois Bell Telephone Company submitted its tariff in January, 1979, and General Telephone Company anticipates submitting its tariff during February, 1979. Other telephone companies should follow soon thereafter. The Commission will review the telephone companies' proposed tariffs for reasonableness.

### 4. System Planning

There is an extensive personnel requirement involved in the planning for each system on the part of local public agencies, telephone companies, and Commission 911 Staff. The Stanford Research Institute, in its study concerning 911 system development in Illinois, identifies eight planning steps:

1. Form local 911 committees from local government, public safety, and telephone company personnel, state public safety personnel (ISP, forestry, etc.), and ICC personnel.
2. Evaluate the local jurisdictional, public safety, and telephone situations to establish a basis for further 911 planning steps.
3. Study 911 call handling techniques and operating and technical standards to determine how they match local needs for 911 systems.
4. Determine several potential 911 systems and answering points that meet the needs of the local area.
5. Determine the best form for managing the 911 systems.
6. Select from the potential 911 systems, developed in step 4, the system that best matches the local requirements.
7. Prepare a preliminary 911 plan and submit it to the ICC and the telephone companies.
8. Continue 911 activity including preparation of the final 911 plans, until 911 systems have been implemented.

Of the eight steps, each may be the topic of at least one meeting involving one or more of the parties mentioned above. If requested, Commission representatives attend these meetings to provide assistance and direction to the local planning committee. Experience has indicated that there are many questions on the part of local officials that can be answered by Commission representatives. Commission representatives serve multiple functions, such as the following:

- . Advise local agencies about the implications of various alternatives.
- . Mediate boundary disputes between adjoining jurisdictions or agencies.
- . Initiate the planning process in areas where it does not occur as a result of local initiative.
- . Interpret the SRI local government and telephone planning manuals when necessary.
- . Interpret Commission standards.

Experience has again indicated that because of the complexity of this planning function each system requires about ten meetings, spread over about 18 months. Additional lead time is necessary for the telephone company's installation of equipment. These lead times range from a minimum of three months to in excess of 18 months after a firm order is placed. During these two or three years, the Commission's 911 Staff expends about 200 hours of effort per system, and, although no figures are available, it is reasonable to assume that each public agency spends much more time planning for its system. Through fiscal years 1977 and 1978, the Commission, through the Public Utility Fund and federal grants through the Illinois Law Enforcement Commission, has spent about \$115,000 assisting the local public agencies. The total fiscal year 1979 appropriation for this effort is \$115,100.

## 5. Current Status

As of February 1, 1979 approximately 39% of the State's population and 5% of the land area have access to the 911 emergency telephone number through 40 operating systems. See Appendix I for a list of towns and surrounding areas with access to 911. Tentative or final plans have been received for 15 systems, representing approximately 24% of the population and 4% of the State's land area. See Appendix II. Plans are near completion or active planning is in progress for 53 additional systems. Systems in the planning stages represent 34% of the population and 54% of the land area. See Appendix III.

## 6. Example Of A System Configuration

A 911 system (Type 3 Basic) may be illustrated by the Aurora 911 system. The Aurora area 911 system consists of two telephone exchanges, Aurora and Sugar Grove, utilizing three telephone central offices. This system serves parts of four sheriffs departments (Kane, Kendall, DuPage, and Will), twelve fire departments or fire protection districts, four city police departments, two hospital emergency rooms, one park district and the Illinois State Police. The system serves an area of approximately 136 square miles with a population of about 90,000. Ambulance service is provided by the various fire departments and by private ambulances which are called by the system.

The Public Safety Answering Point (PSAP) for the system is located in the new Aurora Police Department building. This facility, which is self-contained and underground, also serves as the Emergency Services Disaster Agency emergency operating center. This system is capable of inter-communicating with all agencies participating in this system either by direct radio dispatch or by telephone. Some agencies are dispatched by the PSAP while others utilize different dispatch centers. Radio back-up systems are provided in the event telephone lines fail.

The Aurora area 911 system utilizes a central answering point, yet permits the member agencies the choice of either central, direct radio dispatch or dispersed, telephone transfer dispatching. For instance, calls occurring in the Village of Montgomery for fire, police, and ambulance will be transferred to the Montgomery dispatch center. Police calls for North Aurora are transferred to the Kane County Sheriff for dispatching, while fire calls are directly dispatched by the Aurora dispatch center to the North Aurora Fire Protection District. The central answering point and dispatching points were developed to satisfy current dispatching patterns and political decisions. A diagram of Aurora's 911 system follows.

The estimated implementation cost is approximately \$90,000, with operating expenses anticipated to be approximately \$7,500 per month. Cost includes telephone instruments, lines, and six additional employees. Building modifications and operation console costs are not included because they are absorbed by the city of Aurora. A \$300,000 computer aided dispatch system (cost absorbed by Aurora) was planned and incorporated into the system. While not considered a part of the 911 system, it will provide some statistical data. During the period November 15, 1978 to January 1, 1979, approximately 15,000 calls were processed through this system.

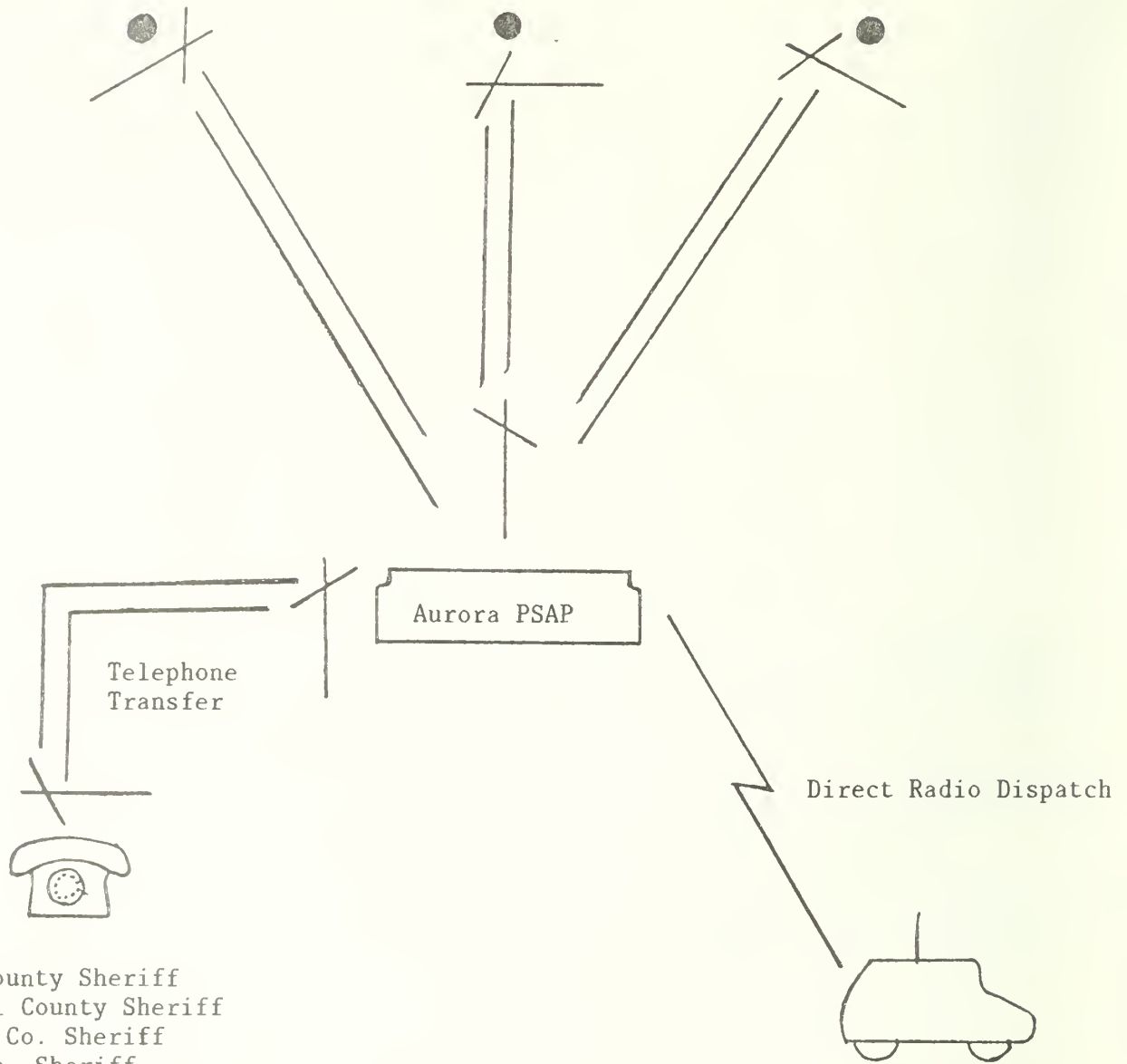
The Commission's 911 Staff assisted Aurora area officials in their planning efforts by providing advice and organizational structure and call handling arrangements. The system began operation in August, 1978.

# AURORA 911 SYSTEM SCHEMATIC

Aurora East  
Central Office

Aurora Main  
Central Office

Sugar Grove  
Central Office



Kane County Sheriff  
Kendall County Sheriff  
DuPage Co. Sheriff  
Will Co. Sheriff  
Illinois State Police  
North Aurora Police  
Surgar Grove Police  
Montgomery Police  
Waubonsee Community College  
Fox Valley Park District  
South Park Fire Department  
Oswego Fire District  
Montgomery Fire District  
Naperville Fire District  
Elburn Fire District  
Batavia Fire District  
Bristol-Kendall Fire District  
Copely Memorial Hospital  
Mercy Center For Health Hospital

Aurora Police  
Aurora Fire  
North Aurora Fire District  
Moechervill Fire District  
Sugar Grove Fire District  
Marywood Fire District



### III. RECOMMENDATIONS

As mentioned at the outset of this report, Section 13 of the Act requires that this progress report contain Commission recommendations for additional legislation. One problem often mentioned by public agencies was liability for civil damages. This issue, however, was solved by the 80th General Assembly through the addition of Section 15.1 to the Act (Public Act 80-744, effective October 1, 1977). Because this major issue has been resolved, the Commerce Commission at this point in time has no recommendations for additional legislation.

Although not recommending additional legislation at this time, the Commission recognizes the financial concerns of the local public agencies in their 911 planning and implementation processes. The financial assistance issue has been the subject of much concern, and has been addressed in a report on State mandated programs and by legislation introduced in the 80th General Assembly. And, already, a number of bills concerning 911 financial assistance and exemptions have been introduced for consideration by the 81st General Assembly. The Commission's 911 Staff, as much as anyone else, is directly aware of the funding issue. Of those public agencies that have submitted tentative plans, or are in the planning stage, 59 have indicated to Commission Staff that they are unable or unwilling to proceed to the final planning stage without funding assistance. As mentioned earlier, Section 13 of the Act requires the Commission, with the advice and assistance of the Attorney General, to submit in December, 1979 and in December, 1980 recommendations to the Governor's Office estimating amounts necessary to further implement the Act in the next fiscal year and to estimate the fiscal impact on local public agencies to implement the Act.

Illinois Commerce Commission  
Report of 911 Implementation Progress  
Revised 2-1-79  
911 SYSTEMS ON LINE

Appendix I

911 System Answering Center	Implementation Date	Grandfathered	Area Served	Population Served (THOUSANDS)	Square Mile Area Served
1. Antioch	11/78	x	Antioch Lake Villa Linden Hurst	7.4	60
2. Aurora	8/79		Aurora North Aurora Montgomery Sugar Grove	90.1	136
3. Bloomington	2/69	x	Bloomington	42	65
4. Brookfield	10/74	x	Brookfield	20.5	20
5. Chicago	9/76	x	Chicago	3,369	224
6. Crystal Lake	9/74	x	Crystal Lake Lake Wood Prairie Grove	18.3	49
7. East Peoria	4/78		East Peoria Creve Cour	24.9	45
8. Edwardsville			Edwardsville	11	86
9. Evanston	4/70	x	Evanston	88	28
10. Forest Park	6/73	x	Forest Park	15.5	9
11. Fox Lake	1/79			10.7	36

Illinois Commerce Commission  
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911 SYSTEMS ON LINE

911 System Answering Center	Implementation Date	Grandfathered	Area Served	Population Served (THOUSANDS)	Square Mile Area Served
12. Galesburg	1/76	x	Galesburg E. Galesburg Henderson	37.9	95
13. Geneseo	5/68	x	Geneseo	13.3	141
14. Glencoe	1/75	x	Glencoe	16	19
15. Henry County	5/73	x	Cambridge	4.6	69
16. Highland	5/79		Highland	10	60
17. Highland Park	5/77		Highland Park Highwood Part of Ft. Sheridan	37.5	13
18. Jacksonville	10/78		Jacksonville So. Jacksonville	23.5	70
19. Lake Zurich	7/78		Lake Zurich Hawthorn Woods Kildeer Parts of Long Grove and Deer Park	5.6	20
20. Marengo	1/75	x	Marengo	4.3	86
21. Marseilles	3/76	x	Marseilles	6.5	68
22. Minonk	8/78		Minonk	2	73
23. Moline	11/74	x	Moline	46.5	37

Illinois Commerce Commission  
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Revised 2-1-79  
911 SYSTEMS ON LINE

911 System Answering Center	Implementation Date	Grandfathered	Area Served	Population Served (THOUSANDS)	Square Mile Area Served
24. Mt. Vernon	5/70	x	Mt. Vernon	17	131
25. Naperville	8/77		Naperville Parts of Lisle, Bolingbrook, Warren- ville and Woodridge Warrenville	31.1	73
26. Normal	2/69	x	Normal	35	65
27. Oak Forest	6/77		Oak Forest	21	8
28. Oak Park	7/73	x	Oak Park	62.5	9
29. Peoria	12/75	x	Peoria Peoria Heights Norwood	135.6	125
30. Perry County	12/73	x	Pinckneyville DuQuoin St. John Tamora Cutler Percy Willisville Remainder of County	25.2	356
31. Plano	6/72	x	Plano	5	36
32. River Forest	6/73	x	River Forest	13.5	8
33. Salem	12/69	x	Salem	6	98

Illinois Commerce Commission  
Report of 911 Implementation Progress  
Revised 2-1-79  
911 SYSTEMS ON LINE

911 System Answering Center	Implementation Date	Grandfathered	Area Served	Population Served (THOUSANDS)	Square Mile Area Served
34. Tinley Park	6/75	x	Tinley Park	21	76
35. Tri-Com	7/76	x	Batavia Geneva St. Charles	35	103
36. Vandalia	9/70	x	Vandalia	6	86
37. Washington	5/71	x	Washington Sunnyland	16.1	55
38. Wauconda	12/78		Wauconda Island Lake Tower Lakes	8.6	27
38. Wilmette	10/75	x	Wilmette Kenilworth	35.1	22
39. Woodford County	12/74	x	El Paso	8	70
40. Woodstock	7/75	x	Woodstock	14	78
TOTALS				<u>4,400.8</u>	<u>2,935</u>

System	Population (Thousands)	Area Square Miles
1. Berwyn	96	6
2. Cary	7.5	21
3. Chenoa	3.2	87
4. Cook County	2,123	730
5. Countryside	5.4	4
6. Elgin	75	196
7. LaGrange	17	3
8. Lake County (Partial)	131	100
9. Menard County	97	312
10. Piatt County	15.5	437
11. Springfield	92	85
12. Wheaton	33.2	52
13. Wilmington	4	73
TOTALS	<u>2,612.5</u>	<u>2,106</u>

## SYSTEMS IN FORMAL COMMISSION PROCEEDINGS AS OF 2/1/79

1. Algonquin	10,000	26
2. Morris	8,500	161
	<u>18,500</u>	<u>187</u>

System	Population (Thousands)	Area Square Miles
1. Adams County	70.9	862
2. Alexander County	12.1	229
3. Boone County	25	283
4. Braidwood	2.5	52
5. Cass County	14.5	371
6. Champaign County	132	1000
7. Coal City	3.9	37
8. Coles County	47.9	506
9. DeKalb County	72	636
10. DeWitt County	17	399
11. Douglas County	19	420
12. DuPage County	492	331
13. Dwight	4	92
14. Edgar County	21.5	628
15. Ford County	16.4	488
16. Hancock County	24	797
17. Henderson County	8.5	376
18. Jackson County	55	605
19. Jersey County	18	376
20. JoDaviess County	22	606
21. Johnson County	7.6	345
22. Kane County (Minus Tri-Com and Aurora)	81	281
23. Kankakee County	97	678
24. Kendall County	16	320
25. Lake County (Remainder)	151.2	182
26. LaSalle County (Minus Marseilles)	111	1,150
27. Livingston County	40.7	1,043
28. Logan County	33.6	622
29. McHenry County (Remainder)	74.1	397
30. McLean County (Minus Bloomington-Normal)	36	1,028
31. Macon County	125	478
32. Marion County (Less Salem)	33	481
33. Massac County	14	245



## SYSTEMS IN PLANNING 2/1/79

System	Population (Thousands)	Area Square Miles
34. Morgan County (Less Jacksonville)	10	561
35. Moultrie County	13.6	326
36. Ogle County	43	759
37. Peoria County	195.4	623
38. Pike County	19	828
39. Pulaski County	8.8	204
40. Rock Island County	117	374
41. Saline County	26	383
42. Sandwich, Somenauk, Leland	6.8	160
43. Sangamon County	69.6	878
44. Schuyler County	8	434
45. Shelby County	22.5	752
46. S.I.L.E.C. Bond County	14	378
Clinton County	28	434
Madison County	199.5	732
Monroe County	18	382
Randolph County	31	594
St. Clair County	275	673
Washington County	13.7	564
47. Tazewell County	118.7	652
48. Union County	17	416
49. Vermilion County	47	899
50. Will County (Minus Wilmington)	245	874
51. Williamson County	49	428
52. Winnebago County	247	518
53. Maryville	47	200
TOTALS	<u>3,788</u>	<u>30,370</u>





